

CLAIMS

What is claimed is:

1. A method for filtering particulate matter from a reservoir of well water comprising the steps of:

5 retaining water in a reservoir having at least one inlet for the introduction of water into the reservoir and at least one outlet for the removal of water from the reservoir,

10 pumping out some of the water from the reservoir near the bottom of said reservoir sufficiently fast to cause at least some of the water to rotate within the reservoir,

15 filtering at least some of the water just pumped from the reservoir, and returning the filtered water to the reservoir.

2. A method according to claim 1 wherein the step of pumping out some of the water comprises drawing water through separate vortex and collector orifices.

3. A method according to claim 2 wherein the step of drawing water through the collector orifices occurs at or near the bottom of the reservoir.

4. A method according to claim 2 wherein the step of drawing water through the vortex orifices occurs above the collector orifices.

5. A method according to claim 2 wherein the step of drawing water through the vortex orifices involves drawing substantially more water than the step of drawing water through the collector orifices.

6. A method according to claim 1 further comprising the step of introducing air bubbles into the filtered water.

7. A method according to claim 2 wherein the step of pumping out some of the water further comprises positioning one or more orifices within the reservoir to detect whether the reservoir is properly filled with water.

8. A method according to claim 1 wherein the angular velocity of said at least some of the water is sufficient to create a defined vortex in the water in the reservoir.

9. A well water purification system comprising:

a tank for retaining well water,

at least one suction line having at least one suction fitting positioned inside the tank near the center of the bottom of the tank and having one or more vortex orifices,

means for pumping water through said suction line,

means for filtering the water that is pumped through said suction line,

and

at least one return line connected to said pump having at least one return jet,

wherein the suction caused at the one or more vortex orifices is sufficient to cause the well water in the tank to rotate enough to aid in the accumulation of sediment or particulate matter near the center of the bottom of the tank.

10. A well water purification system according to claim 9 further comprising one or more collector orifices on said at least one suction line.

11. A well water purification system according to claim 9 wherein the aggregate cross-sectional area of said one or more vortex orifices is substantially larger than the aggregate cross-sectional area of said one or more collector orifices.

12. A well water purification system according to claim 9 further comprising one or more aerators connected to said at least one return line.

13. A well water purification system according to claim 9 further comprising one or more anti-siphoning orifices in said at least one suction line.

14. A water filtration suction fitting for pumping well water out of a retaining reservoir and through one or more filters comprising one or more vortex orifices to create a vortex in the well water, one or more collection orifices, and a connection fitting, wherein the aggregate cross-section of said one or more vortex orifices is substantially larger than the aggregate cross-sectional area of said one or more collection orifices.

15. A water filtration suction fitting according to claim 14 wherein the one or more vortex orifices and the one or more collection orifices are connected to a single suction line.

16. A water filtration suction fitting according to claim 14 wherein said one or more vortex orifices are connected to a first suction line and wherein said one or more collection orifices are connected to a second suction line.

17. A well water purification system comprising:

a tank for retaining well water,

a suction line having at least one suction fitting positioned inside the tank near the center of the bottom of the tank and having one or more vortex orifices and having one or more collector orifices

at least one pump connected to said suction line,

at least one filter in line with said pump,
a return line connected to said pump having at least one check valve and
at least one return jet,
an aerator connected to said return line, and
5 a diverter valve for diverting a portion of the water in said return line
through said aerator,
wherein the suction caused at the one or more vortex orifices is sufficient
to cause the well water in the tank to rotate enough to aid in the accumulation of
sediment or particulate matter near the center of the bottom of the tank.

10 18. A well water purification system according to claim 17 wherein the aggregate
cross-sectional area of said one or more vortex orifices is substantially larger than the
aggregate cross-sectional area of said one or more collector orifices.

15 19. A well water purification system according to claim 17 further comprising one
or more anti-siphoning orifices in said at least one suction line.